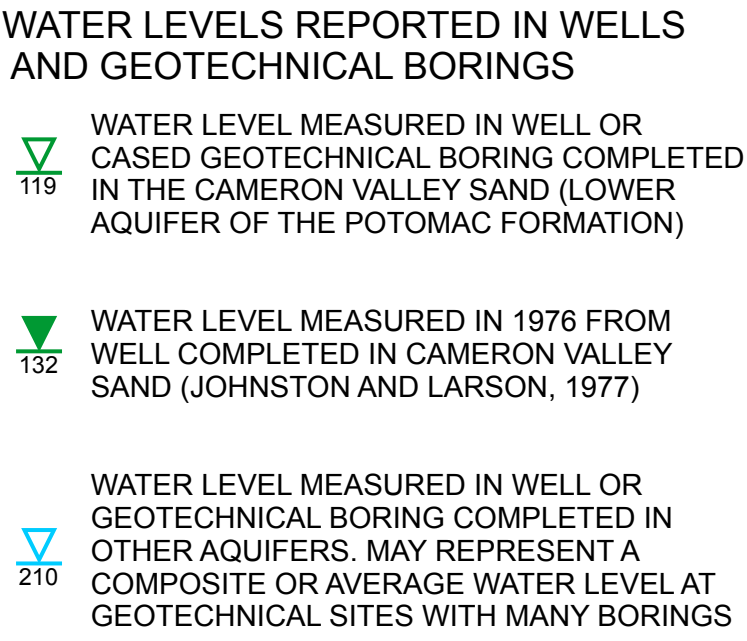
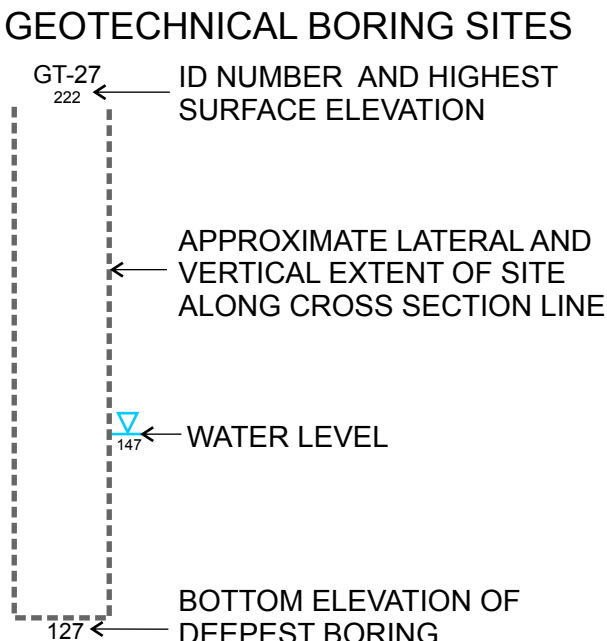
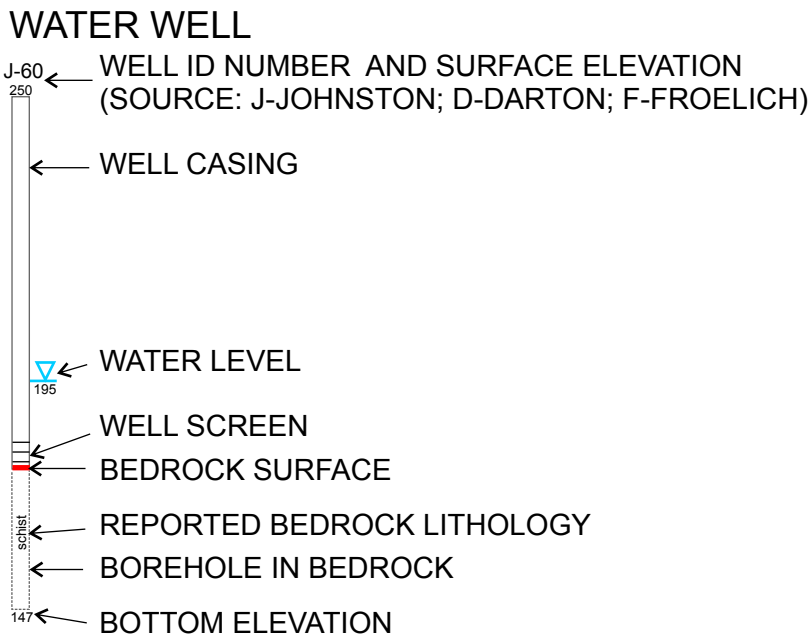


EXPLANATION OF CROSS SECTION SYMBOLS:



OTHER SYMBOLS: 47 SURFACE EXPOSURE. SOME EXCAVATIONS COINCIDE WITH GEOTECHNICAL BORING SITES MOUNT IDA INTERSECTION WITH ANOTHER CROSS SECTION. CROSS SECTIONS ARE DISTINGUISHED BY NAME AND COLOR-CODED SECTION LINES AND TITLES

GEOLOGIC CROSS SECTION 2H– HOSPITAL

Cross section 2H begins near Eisenhower Avenue, crosses Brenman Park near the confluence of Holmes and Backlick Runs, and passes through the sand hills of Shirley Duke and Seminary Valley, before abruptly ascending the massive Hospital escarpment to its terminus just north of the Episcopal Seminary. The section highlights one of the most rugged regions of the City, spanning more than 200 feet of topographic relief in a relatively short distance. The perspective of the section highlights the stratigraphy of the Potomac Formation below the sand hills and escarpment. Geotechnical boring sites, historical water wells, and other sites of cultural, historical, and environmental interest are indicated by labels and symbols along the cross section. The specific location of the cross section is indicated on Plate 1 by a yellow section line.

The cross sections are intended to be used together with the geologic maps, particularly Plate 5, to illustrate the third dimension of the map units and their relations to landforms and water resources. Contacts between map units are approximately located

and may be gradational or transitional, especially in the Potomac Formation. The abundance of control points (surface exposures, wells, geotechnical sites) along the cross section provides a general indication of the reliability of contact locations. Map units are depicted using the same colors, patterns, and labels as on Plate 5, and the explanation of map units on Plate 5 serves as the legend. The section also depicts some bedrock units that are present only in the subsurface and thus do not appear on Plate 5.

The dominant physiographic feature is the south-facing Hospital escarpment, which separates the deeply entrenched Cameron Valley from the Seminary terrace, where the highest elevations in the City are located. Unlike the other sides of the terrace, however, no major intervening terraces separate the south side of the Seminary terrace and the Cameron Valley. The absence of other terraces gives rise to the high relief of the escarpment and implies that the escarpment was cut primarily during the Pleistocene. The Hospital cross section illustrates the importance of the Arell clay as a bluff-making unit. The clay everywhere holds up the

steepest, highest bluffs of the escarpment (see also cross sections 2G: Quaker Lane, and 2D: Mount Ida). Evidence of landslides is ubiquitous in the escarpment, and it seems likely that mass wasting processes have been the dominant mode of escarpment formation and bluff retreat. The peculiar gravel-capped hill just east of Patrick Henry School (exposure #106) is enigmatic; a very large landslide block is one of several possible origins.

The section also illustrates some important aspects of the bedrock surface. It crosses what are currently interpreted as two sizable, southeast-trending tributary bedrock valleys associated with the larger Cameron bedrock valley (see plate 3). This bedrock valley system is inferred to be filled with thick sand deposits at the base of the Potomac Formation. The sharp, scarp-like rise on the bedrock surface at the northeast end of the section is unique within the map area for its abruptness. No other slope on the bedrock surface is so steep. The cause is ultimately unknown: it may be differential erosion between rock units; or an unrecognized fault as discussed in the Catalog of Faults and Other Suspect Structures (part 8).